Amdocs 5G NR & mMIMO services: tier-1 NA operator becomes first to deploy true mobile 5G NR service in US
The background
This Tier-1 North American service provider had launched massive MIMO (multiple-input, multiple-output) and 5G to support key markets. Massive MIMO offers significant gains in wireless data rates and link reliability, enabling data consumption by more users within a dense area without consuming additional radio spectrum or causing interference. The result is better capacity and better-quality data transmission, without impacting the increasingly scarce radio spectrum.

The challenge
Given that 5G must support both future capacity constraints and existing challenges — such as network reliability, coverage, and latency — efficient massive MIMO deployment and optimization was required.

To achieve this, the operator needed to:

- Launch 5G using massive MIMO and NR in key markets
- Ensure a seamless customer experience on LTE and 5G with low latency and high throughput
- Maximize coverage and capacity by optimizing 5G NR and LTE

The solution
Amdocs provided 5G NR and massive MIMO optimization services for the operator’s mobile 5G roll out in its first markets, enabling them to remain on track to meet its goals of building out a blazing-fast, high-capacity mobile network, and delivering true mobile 5G services to its customers ahead of its competitors.

Amdocs’ approach
- Measure mMIMO and 5G NR using drive testing and measuring areas where customer download experience was poor
- Combine drive data with antenna profile and RAN performance data to optimize performance
- Provide insights into 2D/3D beamforming, visualization and cell shaping for coverage, quality and throughput
- Provide process flow and guidelines around massive MIMO and 5G Optimization
- Ensure KPIs are met to enable a seamless customer experience

Amdocs’ solution for massive MIMO optimization covers the end-to-end process of data collection, analysis and actionable recommendations. The rich data processed includes field device test data, antenna profiles, trace data and RAN performance metrics. Advanced analytics performed on the data covers sector and location analysis, coverage and quality analysis, antenna optimization, all the way through to beam analysis. 5G NR optimization deliverables comprise cell shaping recommendations, MIMO parameter tuning, converge break point, SINR, RF shaping and more.

Maximize coverage and capacity by optimizing 5G NR and LTE
Summary
By implementing Amdocs’ mMIMO and 5G NR optimization services, the operator gained the ability to provide an exceptional subscriber experience, while significantly improving the bottom line.

Business benefits

- Significant improvement in throughput and other KPIs across 5G and LTE
- Improved mMIMO performance based on parameter and feature implementation
- Drive-based advanced optimization including mMIMO, beamforming and 5G NR, leveraging Amdocs’ ActixOne platform
- Exceptional subscriber experience
- Vendor-agnostic

- 35% Improvement in peak 5G NR throughput
- 10% Improvement in average EN-DC throughput
- 22% Reduction in secondary cell group (SCG) failures
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Amdocs and its 25,000 employees serve customers in over 85 countries. Listed on the NASDAQ Global Select Market, Amdocs had revenue of $4.0 billion in fiscal 2018.